

## **REMARKS**

### **Pending Claims**

As an initial matter, Applicant gratefully acknowledges prior rejection withdrawn in the present Action.

Claims 1-25 were previously canceled in favor of pending claims 25-30. Claims 26, 27 and 28 have been withdrawn from consideration. The Office indicated that claims 26-28 would be rejoined once there was allowable subject matter. It is believed that claims 25 and 29-30 are in condition for allowance. Rejoinder of claims 26-28 is hereby respectfully requested in line with paragraph 2 of the Action at pg. 2.

Claim 25 has been amended to make what was implicit more precise. Specifically, the claim has been amended to specify that the method selected calcification condition status, namely a lower peak bone mass. Support can be found throughout the disclosure including the claims as filed originally. For instance, see pg. 5, lines 24-30; and claim 2 as filed originally, for instance.

Claim 25 has been further amended to remove recitation of the reference to Genbank Accession No. L24756. Instead, the featured bone sialoprotein gene promoter is referenced as "SEQ ID NO. 25" throughout the body of the claim. The change has been made at the request of the Examiner. See pg. 6, first full paragraph. Further support can be found in the Declaration of Dr. Kusk filed August 3, 2004. In that Declaration Dr. Kusk stated, among other things, the chemical identity of the list of sequences referred to by Genbank Accession Nos. L24756, M55270, D14813 and AB008821 and that those sequences were available to others well before the priority date of the instant application. Decl. at ¶¶ 6-7 and the prior response. Each of the L24756, M55270, D14813 and AB008821 sequences referenced by Dr. Kusk has been assigned

identifiers as SEQ ID Nos. 25, 26, 27 and 28, respectively. Further support can be found throughout the instant application in which each of the Genbank reference numbers are recited multiple times.

Claim 25 has been further amended to point out more clearly relationship between a particular allelic variation (A=>G) and predisposition to a lower peak bone mass. Support for the amendment can be found throughout the application including the Drawings. Related amendments have been made to other independent claims.

Although claims 26-28 have been withdrawn by the Office, the present submission amends those claims to replace Genbank references with appropriate sequence identifiers. It is believed that amendment at this time is appropriate in the event the Examiner rejoins the claims. The amendment is in line with what has been requested by the Office for claim 25.

### **Sequence Listing**

Turning to paragraph 3 of the Action, the present submission includes a revised sequence listing that is in full compliance with the rules. It is noted that SEQ ID Nos. 25-28 have been added to that submission. However, it is not believed that SEQ ID Nos. 25-28 are "new matter". For instance, the Office has accepted that addition of the sequences is appropriate in view of Dr. Kusk's Declaration and the prior response. Moreover, the Examiner specifically requested the addition of the sequence identifiers in the prior Office Action. -See pg. 6 of the prior Action, for instance. This submission is in compliance with that request.

The submission of the attached sequence listing is supported by a statement in accord with 37 CFR §§ 1.821-1.825.

No new matter has been added by virtue of the claim amendments or sequence listing

submission.

**35 USC §112, first paragraph**

Claims 25, 29 and 30 stand rejected under 35 USC §112, first paragraph, as containing new subject matter. While Applicant respectfully disagrees, basis for the rejection has been addressed by this submission. For instance, the term “BSP II” has been removed. Thus, the rejection as stated is moot. Reconsideration and withdrawal are respectfully requested.

**35 USC §112, second paragraph**

Claims 25, 29 and 30 stand rejected under 35 USC §112, second paragraph as being indefinite on various grounds. While Applicant must respectfully disagree that the claims are at all indefinite, basis for the rejection has been fully addressed.

For instance, the phrase “selected calcification status” has been specified by reciting “lower bone peak mass”. Insertion of the phrase helps bring the beginning of claim 25 more into conformity with its end.

At pg. 4 of the Action, last paragraph, the Office found the phrase “lower peak bone mass” indefinite. Applicant respectfully disagrees for the following reasons.

It would be clear to a worker reading Applicant’s specification that the term “lower” in Claim 25 refers to an individual being predicted to be likely to have a lower peak bone mass than would be average for a population of like individuals of unknown allelic variation status. This is in accordance with what is described and exemplified in the specification, particularly from page 27 onwards where the relevant allelic variations were matched against peak bone mass for healthy women participating in an eighteen year study. From this it was observed that the variant

sequence of Claim 25 containing adenine at position 1496 and also the presence of guanine at position 1869 were associated with a lower than average peak bone mass in this group. That meaning would be clear and unambiguous. Clearly, where Claim 25 associates A at 1496 bp with a predisposition to lower peak bone mass it is indicating that the peak bone mass will be low by comparison with individuals with G but an average population will have a mixture of both A and G, so an individual with A would be expected to have a relatively low peak bone mass as against the average also.

However to advance prosecution, Applicant has amended claim 25 to make relationship between the featured allelic variation and predisposition to lower peak bone mass even clearer. In particular, the claim now reads that when the specified adenine variation is present within the promoter sequence, the individual will have a predisposition to lower peak bone mass than when guanine is present.

In view thereof, Applicant respectfully requests reconsideration and withdrawal of the rejection.

**35 USC §112, first paragraph**

Claims 25, 29 and 30 stand rejected as not being enabled. While Applicant disagrees with the rejection, basis for it has been addressed. In particular, the suggestion made by the Examiner at pg. 6, first full paragraph has been adopted ie., the reference to the GenBank record has been deleted in favor of a sequence identifier (SEQ ID NO. 25).

Claims 25, 26 and 30 were further rejected on grounds of non-enablement at pgs. 6-7 of the Action, bridging paragraph. While Applicant respectfully disagrees with the stated basis for rejecting these claims on pgs. 6-11, grounds for the rejection have been addressed. Specifically, the phrase "selected calcification status" although not indefinite at all to one working in this field,

has been made more clearly by adding “lower peak bone mass” to the claims.

Reconsideration and withdrawal of the rejection are requested.

Applicant believes the present submission is timely because it is being mailed on the next business day following the due date (Sat., Feb. 19). Feb 21 was a federal holiday (Presidents’ Day). If the Office disagrees, this submission should be considered a conditional Petition to Extend the period of response to March 19, 2005.

### **CONCLUSION**

Applicant submits that all claims are allowable as written and respectfully request early favorable action by the Examiner. Applicant’s representative would like to discuss this case with the Examiner to learn if any outstanding issues remain after consideration of this submission. If the Examiner believes that a telephone conversation with Applicants’ attorney would expedite prosecution of this application, the Examiner is cordially invited to call the undersigned attorney of record.

Although it is not believed that any further fee is needed to consider this submission, the Office is hereby authorized to charge our deposit account 04-1105 should such fee be deemed necessary.

Date:

22 Feb 2005

Respectfully submitted,



---

Robert L. Buchanan  
Reg. No. 40,927  
EDWARDS & ANGELL, LLP  
P.O. Box 55874  
Boston, MA 02205  
Telephone: 617-439-4444  
Fax: (617) 439-4170 / 7748

Customer No. 21874